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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,751	07/15/2003	Maria Ronay	20140-00296-US2; YOR92002	6935
30678	7590	05/10/2004	EXAMINER	
CONNOLLY BOVE LODGE & HUTZ LLP SUITE 800 1990 M STREET NW WASHINGTON, DC 20036-3425			RACHUBA, MAURINA T	
			ART UNIT	PAPER NUMBER
			3723	

DATE MAILED: 05/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/618,751	Applicant(s) RONAY, MARIA	
	Examiner M Rachuba	Art Unit 3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 20 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/15/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 4, 6, 8, 20 and 21 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Walsh et al 6,045,716. Please refer to column 8, lines 51-65. '716 states that the slurry mixture can be a solution of water and particles, the particles are selected from a material such as titanium dioxide, titanium nitride, aluminum oxide, aluminum trioxide, iron nitrate, cerium oxide, silicon dioxide (colloidal silica), silicon nitride, silicon carbide, graphite, diamond, and any mixtures thereof. Note the use of graphite as an abrasive particle, but that is also a known lubricant, and that can be part of a mixture of particles with the other materials listed. Graphite has a coefficient of friction of 0.1. (The Physics HypertextbookTM (C) 1998-2004, Glenn Elert, copy included.)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 2, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walsh et al '716. '716 does not disclose the specific particle size range or relative range of the amounts of the lubricant particles and abrasive particles. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided '716 with the required sizes and amounts of materials, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Here, the relative sizes and amounts of the particles in the slurry would depend on the type and thickness of material being planarized.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walsh et al '716 in view of Chang et al 2003/0211743 (filed May 7, 2002). '716 does not disclose that a surfactant may be added to the slurry. '743, in a slurry for CMP applications, teaches that it is old and well known to use surfactants in CMP slurries, to maintain slurry particle dispersion. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided '716 with a surfactant as taught by '743, [007] lines 12-14, to maintain particle dispersion.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Other similar CMP slurries are cited of interest.

7. Any inquiry concerning the content of this communication or earlier communications from the examiner should be directed to M. Rachuba whose telephone number is (703) 308-1361. The examiner can normally be reached on Monday through

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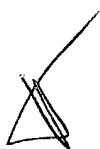
Friday from 8:30 AM to 4:00 PM. Any inquiries concerning other than the content of this and previous communications, such as missing references or filed papers not acknowledged, should be directed to the Customer Service Representative, Tech Center 3700, (703) 306-5648.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail, can be reached on (703) 308-2687.

In lieu of mailing, it is encouraged that all formal responses be faxed to 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1148.

M. RACHUBA
PRIMARY PATENT EXAMINER
ART UNIT 3723



mtr
May 6, 2004